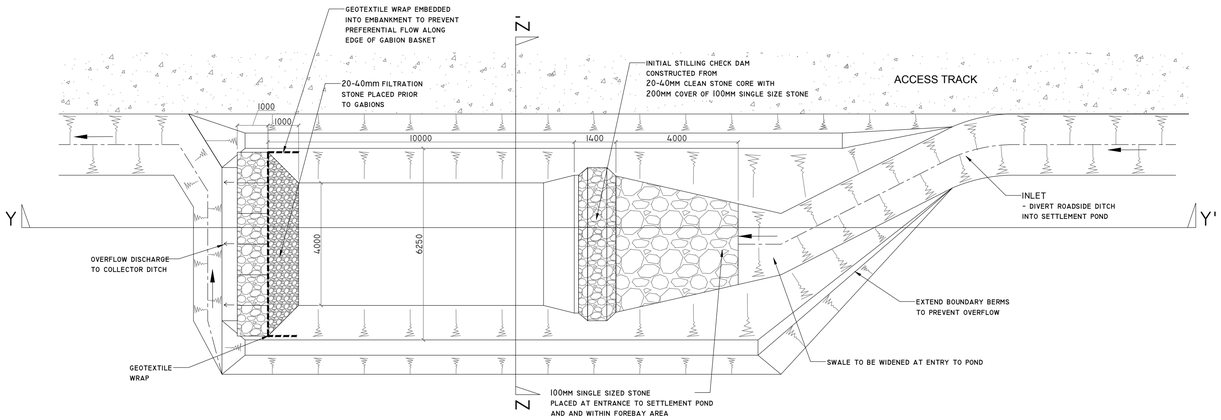
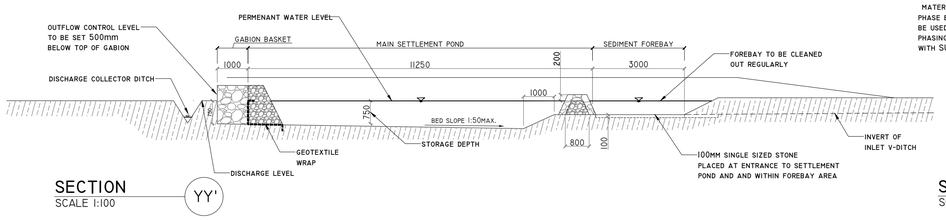
DETAIL A



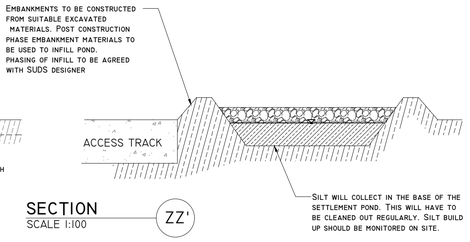
TYPICAL ROAD SIDE SETTLEMENT POND DETAIL

SCALE 1:200 (NOTE DIMENSIONS VARY DEPENDING ON CATCHMENT SIZE)



SECTION

SCALE 1:100 YY'



SECTION

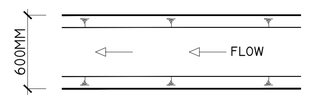
SCALE 1:100 ZZ'

DETAIL B

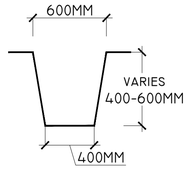
PEAT DITCH SILT TRAP

SCALE 1:25

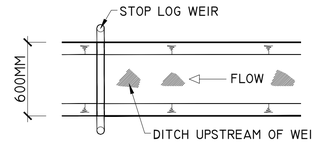
PLAN - EXISTING PEAT DITCH



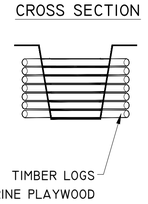
CROSS SECTION



PLAN - PEAT DITCH SILT TRAP



CROSS SECTION

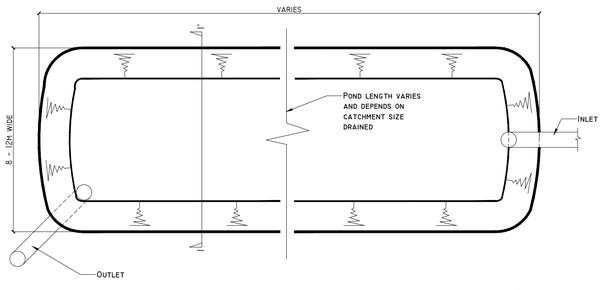


DETAIL C

TYPICAL BNM SETTLEMENT POND DETAIL

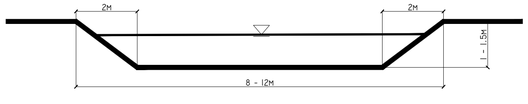
SCALE 1:200

PLAN



SECTION

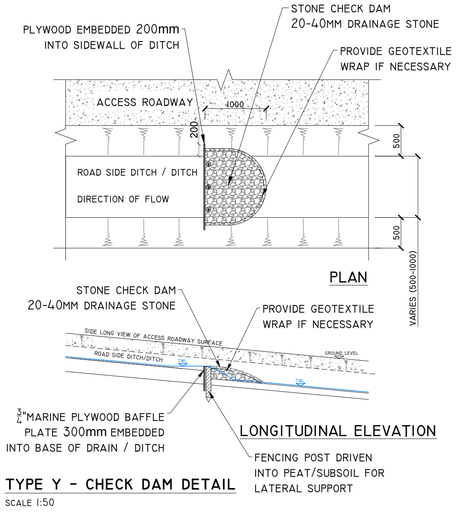
SCALE 1:100 II'



NOTES:

- ALL SETTLEMENT PONDS OPERATE TO LICENCE REQUIREMENTS 6.6 TO 6.11 OF IPPC LICENCE REG NO. 503 - BNM - ALLEN GROUP
- BASED ON ACCUMULATION OF 100 M^3/HA/YEAR SILT
- PONDS CLEANED MINIMUM TWICE A YEAR (I.E. SILT DESIGN CAPACITY OF LAGOONS, MIN 50 M^3 PER NET HA OF BOG SERVICED), ONCE BEFORE DITCHING AND ONCE BEFORE HARVESTING, OR AS INSPECTIONS MAY DICTATE
- GENERALLY - 8 - 12 M WIDE, AND 1 - 1.5 M DEEP
- VELOCITY THRESHOLD OF 0.1 M/SEC

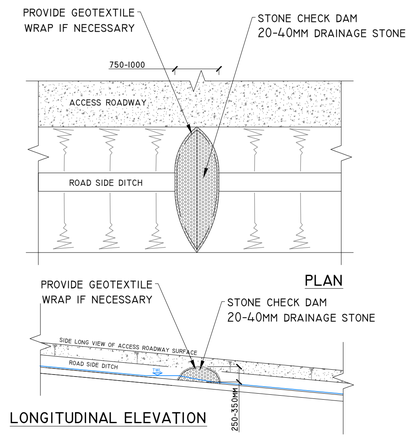
DETAIL D



TYPE Y - CHECK DAM DETAIL

SCALE 1:50

DETAIL E



TYPE X - CHECK DAM DETAIL

SCALE 1:50

Project Design Drawing Notes:

1. Please note this drawing is for planning purposes only, and further detailed specification will be required for the execution of the works to ensure they meet required relevant design standards, and potential planning conditions.
2. Drawings not to be used for construction /contract conditions.
3. Copyright, all rights reserved. No part here with may be copied or reproduced partially or wholly in any form whatsoever without the prior notice of the copyright owner Hydro-Environmental Services.
4. Do not scale off this drawing. Figured metric dimensions only should be taken off this drawing.
5. The use of or reliance upon this drawing shall be deemed to be acceptance of these conditions of use unless otherwise agreed in writing, such written agreement to be sought from and issued by the copyright holder to the use or reliance upon this drawing.
6. Drainage systems are offset at a distance appropriate to the scale of this drawing. All drainage will be located adjacent to infrastructure, as appropriate across the site.

Drainage Design Notes

1. All drainage subject to micro-siting and optimisation on site.
2. The locations of construction phase interceptor drains, check dams, culverts, swales, settlement ponds and level spreaders are shown as indicative, and may be changed to suit the requirements of the local topography.
3. Supervising hydrologist or environmental clerk of works (environmental scientist) to oversee installation of drainage features following detailed drainage design.
4. Drainage measures to be installed prior to, or at the same time as the works areas they are intended to drain.
5. Design elevation of the water surface along the route of the interceptor drains or swales will not be lower then the design elevation of the water surface in the outlet at the level spreader or settlement pond.
6. The spacing and frequency of the check dams will be dependant on the gradient of the interceptor drain or swale in which they are being installed.
7. Check dam designs to be selected best to suit particular topography and hydrological environment.
8. Down gradient slope below level spreader onto which the water will dissipate to have a grade <6%.
9. No direct discharge or pumping to watercourses will be permitted. All discharges from level spreaders or stilling ponds to be via vegetated filters. Selection or suitable areas to use as vegetation filters will be determined by the size of the contributing catchment, slope and ground conditions.
10. New temporary construction phase settlement ponds to be sized according to the catchment area they will be receiving water from.
11. Diversion of drainage ditches will only take place when alternative drainage ditch has been installed to handle the same water.
12. All drainage system features to be subject of inspection and maintenance plan.
13. The layout shown is slightly offset for scale purposes, and all drainage will be installed as close to access tracks/roads as possible.

Date	Description	Chkd	Signed
05.10.16	Planning - Rev A	M.G.	M.Gill

Revisions

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Client: BORD NA MONA POWERGEN LTD

Job: DERRINLOUGH WIND FARM, CO. OFFALY

Title: DRAINAGE DETAILS I

Figure No: 171221 - 21

Drawing No: P1463-0220-A1-171221-21-00A	
Sheet Size: A1	Project No.: P1463
Scale: as shown (A1)	Drawn By: G.D./M.Gill
Date: 14/02/2020	Checked By: M.G.